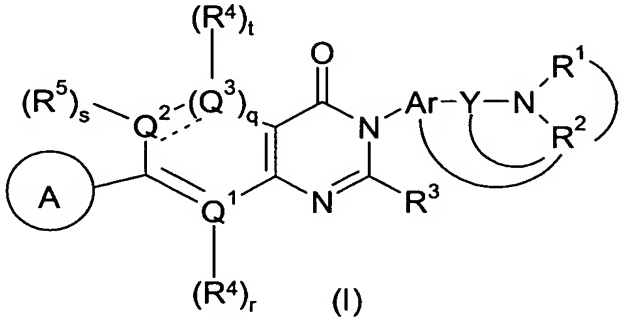
Amendments To The Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

What is claimed is:

1. (Original) A compound of formula (I) comprising:



(I)

a pharmaceutically acceptable salt, solvate, or physiologically functional derivative thereof, wherein:

(A) is aryl or heteroaryl, optionally substituted one to four times by at least one substituent selected from the group consisting of C_{1-6} straight or branched alkyl, alkenyl, halo, amino, alkylamino, dialkylamino, hydroxy, C_{1-6} alkoxy, cyano, nitro, and alkylthio groups;

the dashed line connecting Q^2 to Q^3 represents an optional bond;

q, r, s, and t are each independently 0 or 1;

when q is 1, the dashed line is a bond;

Q^1 and Q^3 are each independently C or N;

when q is 0 then Q^2 is N, S, or O;

when q is 1, then Q^2 is C or N; when q is 1 and Q^2 is N, then s is 0;

when Q^2 is S or O, s is 0;

when Q^1 is N, r is 0;

when Q^3 is N, t is 0;

R^3 is selected from the group consisting of hydrogen, amino, C_{1-6} straight or branched alkyl, C_{3-6} cycloalkyl, and C_{1-3} alkylthio;

when Q^1 or Q^3 is C, then each corresponding R^4 is independently selected from the group consisting of hydrogen, C_{1-6} straight or branched alkyl, C_{3-6} cycloalkyl, C_{1-6} alkoxy, amino, alkylamino, dialkylamino, hydroxy, cyano, alkylthio, and halo;

when q is 1 and Q^2 is C or when q is 0 and Q^2 is N, then R^5 is selected from the group consisting of hydrogen, C_{1-6} straight or branched alkyl, C_{3-6} cycloalkyl, C_{1-6} alkoxy, amino, alkylamino, dialkylamino, hydroxy, cyano, alkylthio, and halo;
Ar is an optionally substituted fused bicyclic ring;
Y is a bond or a C_{1-6} alkylene, optionally substituted;
(i) R^1 and R^2 are each independently selected from the group consisting of hydrogen, C_{1-6} straight or branched alkyl, C_{3-6} cycloalkyl, and a 5- or 6-membered heterocycle wherein said alkyl, said cycloalkyl, and said heterocycle are optionally substituted one to four times by at least one substituent selected from the group consisting of phenyl, C_{1-3} alkyl, hydroxy, oxo, alkoxy and halo;
or (ii) R^1 and R^2 are each selected from the group consisting of aryl and a 5- or 6-membered heteroaryl containing 1, 2, or 3 heteroatoms selected from N, O, and S, wherein said aryl and said heteroaryl are optionally substituted 1, 2, or 3 times with at least one substituent selected from halo, C_{1-6} straight or branched alkyl, C_{3-6} cycloalkyl, C_{1-6} alkenyl, C_{3-6} cycloalkenyl, hydroxy, C_{1-6} alkoxy, oxo, amino, C_{1-6} alkylamino, C_{1-6} dialkylamino, C_{1-6} alkylthio, C_{1-6} alkylsulfinyl, and phenyl;
or (iii) R^1 and R^2 together with the nitrogen atom to which they are bonded form a 4-8 membered heterocyclic ring or a 7-11 membered bicyclic heterocyclic ring, wherein said 4-8 membered heterocyclic ring and said 7-11 membered bicyclic heterocyclic ring contain 1, 2 or 3 heteroatoms selected from the group consisting of N, O, and S, and wherein either said heterocyclic ring or said bicyclic heterocyclic ring is optionally substituted one to four times by at least one substituent selected from the group consisting of by phenyl, C_{1-3} alkyl, hydroxy, C_{1-3} alkoxy, oxo, amino, C_{1-6} alkylamino, C_{1-6} dialkylamino, or halo;
or (iv) R^2 together with the adjacent nitrogen atom and Y may form an optionally substitued nitrogen-containing heterocycle, or R^2 together with the adjacent nitrogen atom, Y, and Ar may form an optionally substituted nitrogen-containing heterocycle or salt thereof, wherein said heterocycle is optionally substituted one to four times by at least one substituent selected from the group consisting of phenyl, C_{1-3} alkyl, hydroxy, C_{1-3} alkoxy, oxo, amino, C_{1-6} alkylamino, C_{1-6} dialkylamino, and halo.

2. (Original) The compound according to Claim 1 wherein said

(A) is an aryl substituted with at least one substituent selected from the group consisting of halo, C_{1-3} alkyl, and C_{1-3} alkoxy.

3. (Original) The compound according to Claim 2 wherein  is an aryl substituted with a group selected from the group consisting of fluoro, chloro, and methoxy.

4. (Original) The compound according to Claim 1 wherein said  is a halo-substituted aryl or a halo-substituted heteroaryl; q is 0; s is 0; Q^1 is C; Q^2 is S; and R^4 is hydrogen or halo.

5. (Original) The compound according to Claim 4 wherein  is 4-chlorophenyl; and R^3 and R^4 are each hydrogen.

6. (Original) The compound according to Claim 1 wherein Q^1, Q^2, and Q^3 are each C; and q, r, s, and t are 1.

7. (Original) The compound according to Claim 1 wherein Q^1 is N; Q^2 is S; and q, r, s, and t are 0.

8. (Original) The compound according to Claim 1 wherein R^3 is hydrogen or C_{1-3} alkyl.

9. (Original) The compound according to Claim 8 wherein R^3 is hydrogen or methyl.

10. (Original) The compound according to Claim 1 wherein Ar is a 9-14 membered fused polycyclic aromatic ring or a 9-14 membered fused polycyclic heteroaromatic ring.

11. (Original) The compound of Claim 10 wherein the fused polycyclic aromatic ring or the fused polycyclic heteroaromatic ring is a ten-membered ring.

12. (Original) The compound of Claim 11 wherein said fused polycyclic aromatic ring is naphthalene or the fused polycyclic heteroaromatic ring is quinoline.

13. (Original) The compound of Claim 11 wherein Y is an optionally substituted C_{1-6} alkylene.

14. (Original) The compound of Claim 13 wherein Y is a C_{1-3} alkylene, optionally substituted.

15. (Original) The compound of Claim 14 wherein Y is methylene.

16. (Original) The compound according to Claim 1 wherein in (i), R^1 and R^2 are each selected independently from the group consisting of hydrogen, C_{1-6} straight or branched alkyl, and C_{3-6} alkyl.

17. (Original) The compound according to Claim 16 wherein in (i), R^1 and R^2 are selected independently from the group consisting of hydrogen, C_{1-3} straight or branched alkyl, and C_{3-6} alkyl.

18. (Original) The compound according to Claim 1 wherein, in (ii), either R^1 or R^2 is aryl or heteroaryl, the other remaining R^1 or R^2 is hydrogen, C_{1-6} alkyl, or a C_{3-6} cycloalkyl.

19. (Original) The compound according to Claim 1 wherein, in (iii), R^1 and R^2 together with the nitrogen atom to which they are bonded form a 5- or 6-membered heterocyclic ring or an 8- to 11-membered bicyclic heterocyclic ring; having 1 or 2 heteroatoms selected from the group N, O, and S; wherein said heterocyclic ring and said bicyclic heterocyclic ring are optionally substituted up to two times with a substituent selected from the group consisting of oxo and halo.

20. (Original) The compound according to Claim 19 wherein R^1 and R^2 together with the nitrogen atom to which they are bonded form a heterocyclic ring selected from the group consisting of morpholine, piperidine, piperazine, pyrrolidine, 1,3-thiazolidine, 1H-imidazole, 4,5-dihydro-1H-imidazole, 2,3-dihydroindole, 1,2,3,4-tetrahydroquinoline, and 1,2,3,4-tetrahydroisoquinoline; and wherein said heterocyclic ring is optionally substituted one to four times by at least one substituent selected from the group consisting of phenyl, C_{1-3} alkyl, hydroxy, alkoxy, oxo, and halo.

21. (Original) The compound according to Claim 1 wherein, in (iv), Y is a C_{1-6} alkylene and R^2 is linked to said Y to form a 3 to 7-membered ring.

22. (Original) The compound according to Claim 21 wherein said ring is a 5 to 7-membered ring optionally substituted one to four times by at least one substituent selected from the group consisting of phenyl, C_{1-3} alkyl, hydroxy, alkoxy, oxo, and halo.

23. (Original) The compound according Claim 1 wherein the compound is selected from the group consisting of

6-(4-chlorophenyl)-3-{6-[(4-hydroxy-1-piperidinyl)methyl]-2-naphthalenyl}thieno[3,2-d]pyrimidin-4(3H)-one;

6-(4-chlorophenyl)-3-[6-(pyrrolidin-1-ylmethyl)-2-naphthyl]thieno[3,2-*d*]pyrimidin-4(3*H*)-one;

6-(4-chlorophenyl)-3-{2-[(4-methylpiperazin-1-yl)methyl]-1-benzothien-5-yl}thieno[3,2-d]pyrimidin-4(3H)-one;

6-(4-fluorophenyl)-3-[2-(pyrrolidin-1-ylmethyl)quinolin-6-yl]thieno[3,2-*d*]pyrimidin-4(3*H*)-one;

6-(4-fluorophenyl)-3-[2-(piperidin-1-ylmethyl)quinolin-6-yl]thieno[3,2-*d*]pyrimidin-4(3*H*)-one;

6-(4-chlorophenyl)-3-{2-[(2-methyl-4,5-dihydro-1*H*-imidazol-1-yl)methyl]quinolin-6-yl}thieno[3,2-*d*]pyrimidin-4(3*H*)-one;

6-(4-chlorophenyl)-3-{2-[(2,2,6,6-tetramethylpiperidin-1-yl)methyl]quinolin-6-yl}thieno[3,2-*d*]pyrimidin-4(3*H*)-one;

and 6-phenyl-3-[2-(pyrrolidin-1-ylmethyl)quinolin-6-yl]thieno[3,2-*d*]pyrimidin-4(3*H*)-one.

24. (Original) The compound of Claim 10 wherein Ar is a 9-membered fused polycyclic heteroaromatic ring.

25. (Original) The compound of Claim 24 wherein Ar is benzimidazole, indole, benzothiophene, benzothiazole, or benzofuran.

26. (Original) The compound of Claim 25 wherein Y is a bond or C_{1-3} alkylene.

27. (Original) The compound of Claim 26 wherein Y is a bond or methylene.

28. (Original) The compound according to Claim 24 wherein, in (i), R^1 and R^2 are each selected independently from the group consisting of hydrogen, C_{1-6} straight or branched alkyl, and C_{3-6} alkyl.

29. (Original) The compound according to Claim 28 wherein, in (i), R^1 and R^2 each are selected independently from the group consisting of hydrogen, C_{1-3} straight or branched alkyl, and C_{3-6} alkyl.

30. (Original) The compound according to Claim 24 wherein, in (ii), either R^1 or R^2 is aryl or heteroaryl, the other remaining R^1 or R^2 is hydrogen, C_{1-6} alkyl, or a C_{3-6} cycloalkyl.

31. (Original) The compound according to Claim 24 wherein, in (iii), R^1 and R^2 together with the nitrogen atom to which they are bonded form a 5- or 6-membered heterocyclic ring or an 8- to 11-membered bicyclic heterocyclic ring having 1 or 2 heteroatoms selected from the group N, O, and S; and wherein said heterocyclic ring and said bicyclic heterocyclic ring may be optionally substituted up to two times with a substituent selected from the group consisting of oxo and halo.

32. (Original) The compound according to Claim 31 wherein said ring is selected from the group consisting of morpholine, piperidine, piperazine, pyrrolidine, 1,3-thiazolidine, 1H-imidazole, 4,5-dihydro-1H-imidazole, 2,3-dihydroindole, 1,2,3,4-tetrahydroquinoline, or 1,2,3,4-tetrahydroisoquinoline; and wherein said heterocyclic ring is optionally substituted one to four times by at least one substituent selected from the group consisting of phenyl, C_{1-3} alkyl, hydroxy, alkoxy, oxo, and halo.

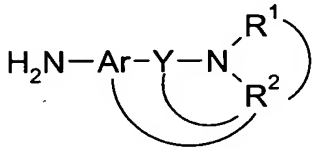
33. (Original) The compound according to Claim 24 wherein, in (iv), Y is a C_{1-6} alkylene and is linked to R^2 to form a 3-7 membered ring.

34. (Original) The compound according to Claim 33 wherein said 3-7 membered ring is a 5 to 7 membered ring optionally substituted one to four times by at least one substitutent selected from the group consisting of phenyl, C_{1-3} alkyl, hydroxy, alkoxy, oxo, and halo.

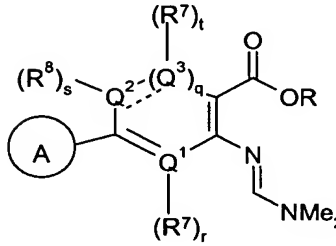
35. (Original) The compound according Claim 24 wherein the compound is

6-(4-chlorophenyl)-3-[2-(dimethylamino)-1-methyl-1*H*-benzimidazol-6-yl]thieno[3,2-*d*]pyrimidin-4(3*H*)-one.

36. (Original) A process for preparing a compound of Claim 1 comprising reacting an aniline of formula (II)

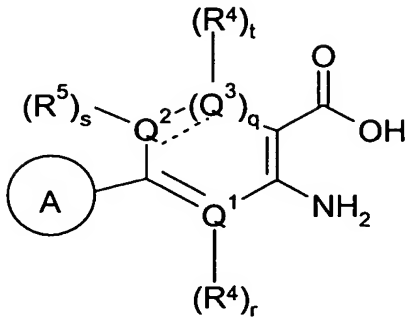

(II)

with a compound of formula (III)


(III)

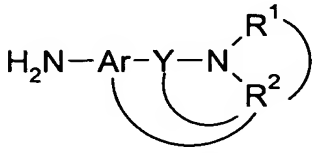
while heating in a solvent; wherein  , R^5, R^4, R^3, R^2, R^1, Ar, Y, Q^1, Q^2, Q^3, q, r, s, and t, are as defined in formula (I); and R is C_1-C_4 alkyl.

37. (Original) A process for preparing a compound of Claim 1 comprising coupling an amino acid of formula (IV)



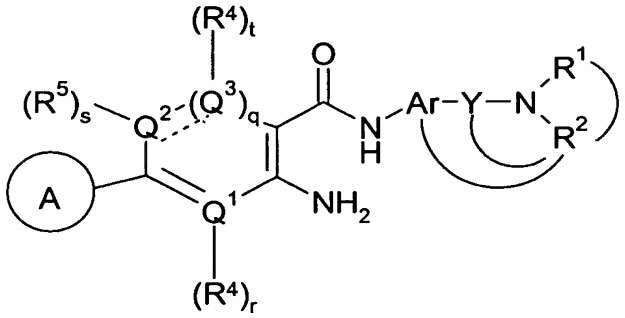
(IV)

with an aniline of formula (II)



(II)

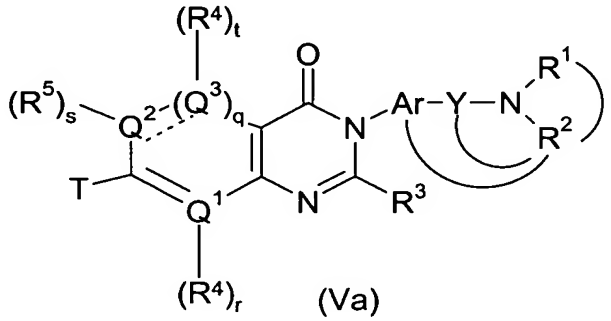
in a solvent in the presence of at least one coupling agent to produce a compound of formula (V)



(V)

and cyclizing said compound of formula (V) to form a compound of formula (I) and wherein  , R^5, R^4, R^3, R^2, R^1, Ar, Y, Q^1, Q^2, Q^3, q, r, s, and t, are as defined in formula (I).

38. (Original) A process for preparing a compound of Claim 1 comprising reaction of a compound of formula (Va)

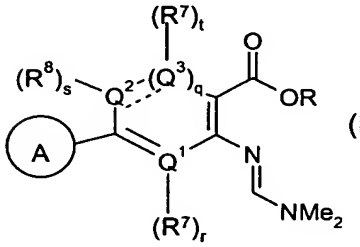


(Va)

with a boronic acid and a palladium catalyst using a Suzuki coupling reaction or with an organostannane reagent and a palladium catalyst using a Stille coupling reaction

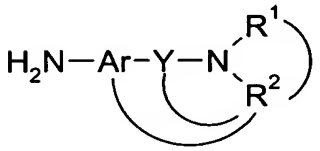
and wherein  , R^5, R^4, R^3, R^2, R^1, Ar, Y, Q^1, Q^2, Q^3, q, r, s, and t, are as defined in formula (I) and T is a leaving group.

39. (Original) A process for preparing a compound of Claim 1 comprising coupling an amino ester of formula (III)



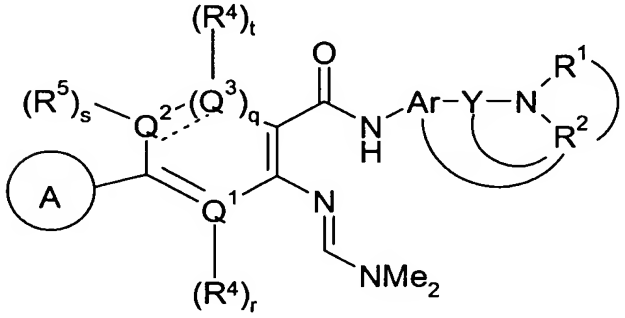
(III)

with an aniline of formula (II)



(II)

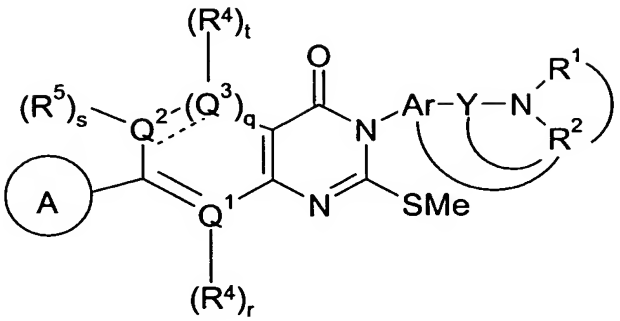
in a solvent in the presence of trimethylaluminum to produce a compound of formula (Vb)



(Vb)

and cyclizing said compound of formula (Vb) to form a compound of formula (I) and wherein wherein  , R^5, R^4, R^3, R^2, R^1, Ar, Y, Q^1, Q^2, Q^3, q, r, s, and t, are as defined in formula (I).

40. (Original) A process for preparing a compound of Claim 1 wherein R^5 is hydrogen comprising reacting a sulfur-containing compound of formula (VI)



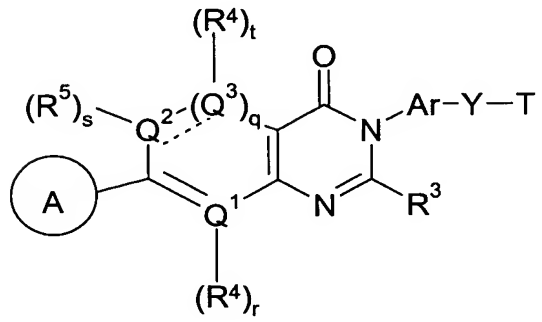
(VI)

with a Raney nickel reductant in the presence of a solvent and wherein wherein (A), R^5, R^4, R^3, R^2, R^1, Ar, Y, Q^1, Q^2, Q^3, q, r, s, and t, are as defined in formula (I).

41. (Original) A process for preparing a compound of Claim 1 comprising the alkylation of an amine of formula (VII)

$H—NR^1R^2$ (VII)

with an alkylating agent of formula (VIII)



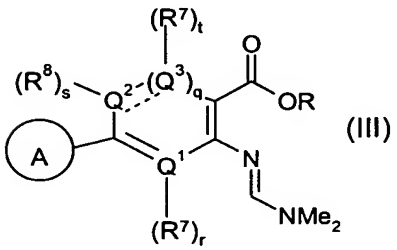
(VIII)

wherein T is a leaving group, and wherein (A), R^5, R^4, R^3, R^2, R^1, Ar, Y, Q^1, Q^2, Q^3, q, r, s, and t, are as defined in formula (I).

42. (Original) A process for preparing a compound of Claim 1 comprising the treatment of an amine of formula (VII)

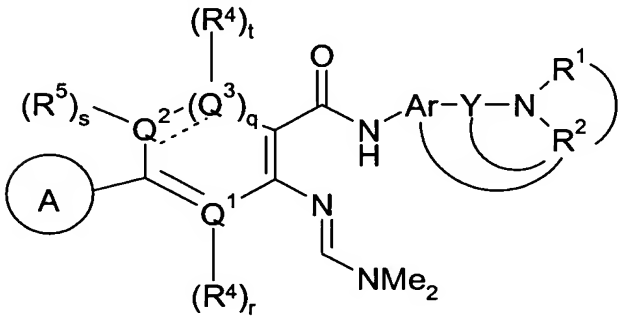
$$H-NR^1R^2 \quad (VII)$$

with a strong base such as sodium hexamethyldisilazane and reaction with an ester of formula (III)



(III)

in a solvent such as tetrahydrofuran to produce a compound of formula (Vb)



(Vb)

and cyclizing said compound of formula (Vb) to form a compound of formula (I) and wherein wherein (A), R^5, R^4, R^3, R^2, R^1, Ar, Y, Q^1, Q^2, Q^3, q, r, s, and t, are as defined in formula (I).

43. (Original) A method of treating obesity, diabetes, depression, or anxiety in a mammal comprising the administration to said mammal of an effective amount of a compound according to Claim 1 or a pharmaceutically acceptable salt, solvate, or physiologically functional derivative thereof.

44. (Original) The method of Claim 43 wherein said mammal is a human.

45. (Original) A method of treating obesity, diabetes, depression, or anxiety in a mammal comprising the administration of an effective amount of a pharmaceutical composition containing a compound according to Claim 1, a pharmaceutically acceptable salt, solvate, or physiologically functional derivative thereof to said mammal.

46. (Original) The method of Claim 45 wherein said mammal is a human.

47. (Original) The compound of Claim 1, a salt, a solvate, or physiologically functional derivative thereof in combination with at least one species selected from the group consisting of an agent for treating diabetes, an agent for treating hypertension, and an agent for treating arteriosclerosis.

48. (Currently Amended) The compound of Claim 1, a salt, a ~~solveat~~ solvate, or a physiologically functional derivative thereof in combination with at least one species for the treatment of obesity selected from the group consisting of (i) human ciliary neurotrophic factor, (ii) a CB-1 antagonist or inverse agonist, (iii) a neurotransmitter reuptake inhibitor, (iv) a lipase inhibitor, (v) an MC4R agonist, (vi) a 5-HT2c agonist, and (vii) a ghrelin receptor agonist or antagonist.

49. (Original) A pharmaceutical composition comprising a compound of Claim 1 and at least one excipient or carrier.

50. (Cancelled).